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# **Factors Affecting Academic Motivation of Medical Library and Information Science Students: A Case Study of Hamadan University of Medical Sciences, Iran**

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## **ABSTRACT**

**Purpose:** Academic motivation is one of the most essential psychological concepts in education and one of the most important issues affecting academic achievement. Lack of interest and motivation is the main educational problem. Therefore, in order to improve the quality of education, studying the academic motivation and the factors affecting it seems necessary.

**Methods:** This study was conducted via an analytical survey method. The study population included all students of the Medical Library and Information Science at Hamadan University of Medical Sciences (Iran) who were studied by census method. The data collection was done through a questionnaire. For analyzing the data, descriptive and inferential statistical methods, as well as SPSS-20 software, were used.

**Results:** The average score of the academic motivation of Medical Library and Information Science students was 130.18 (out of 196). The total score of average academic motivation for students under 22 years of age was 30.54 and for students with 23 years of age and older was

45.63, which was statistically significant (p-value = 0.004). The results also showed that the academic motivation score of male students was higher than female students, graduate students more than undergraduate students, and local students more than non-local students. Also, being non-local and living in the dormitory can be considered as the most important factor of academic amotivation.

**Conclusion:** The total score of students' academic motivation in this study was relatively good. However, the motivation score was also significant, which requires planned educational actions. It is suggested that educational systems should pay more attention to individual and environmental factors affecting academic motivation.

**Keywords:** Academic Motivation; Students; Medical Library and Information Science; Motivation

## **Introduction**

Motivation is one of the most essential psychological concepts in all activities of a person's life including study, education and research (1) and is one of the most important issues affecting academic achievement (2, 3). Motivation is an inherent phenomenon that is influenced by four factors: settings of the environment, external stimulus, goal and the means of achieving a goal (4, 5). In general, any behavior that a person shows is the result of three factors: motivation, need, and purpose. In other words, along with any behavior, motivational triangle, purpose and need is seen. Now, if the side factors cause the person's motivation to decrease or lack of foresight and necessary knowledge causes ambiguities in determining goals, so that the person experiences confusion, aimlessness and has no motivation for conducting scientific activities, in addition to not having the feeling or recognition, amotivation is one of the causes of incuriosity and disinclination towards studying and continuing education (6). After entering university, many students are not able to adapt to the new academic situation and most students experience severe academic failure in the first semester and even to the end of their studies (7, 8). As mentioned, in most cases, the problem facing students is not the comprehension of what is being taught, but it is the lack of motivation that hinders learning. Lack of motivation towards education, past academic failure and wasting financial resources lead to frustration and discouragement in students and provides the basis for psychological problems and social deviation (9).

One of the theories which has attracted the attention of many experts in relation to academic motivation is the theory of self-determination (10, 11). In this theory, a complete analysis of motivation process requires considering the three important constructs including internal motivation, external motivation and amotivation (12, 13). The components of intrinsic motivation are internal and personal reinforcers which spontaneously cause the necessary attractiveness for performing an activity, regardless of external rewards (14). While components of external motivation refer to external reinforcers which under their impact the individual strives to achieve an independent goal (13). Amotivation also refers to people who do not receive any motivation (satisfaction, inner worth, or external incentives) for their activities. Therefore, they refuse to conduct the activities (15). For science seekers and students, academic motivation is of particular importance (16), as an internal force that guides the learner to a comprehensive evaluation of their performance based on highest standards and to propels them towards trying to succeed in performance and experiencing the enjoyment which it brings with itself (17-19). Successful academic performance is always one of the most important signs of the efficiency of university education system, followed by which students' amotivation for continuing their education is one of the major challenges of higher education centers and universities throughout the country, which can waste many resources and distract the education system from its set goals (17, 20). In this regard, the university as the most important scientific base for training professional, knowledgeable and experienced forces plays a very important role (21, 22). Students studying in universities are the main figures of the university (23), human capital and the main axis of efficient development (24) in any society and by entering the university, they are among the efficient and creative force of a country. This is achieved when the main goal of entering the university, namely academic success and achievement, is met. Therefore, it is the duty of educational institutions to take this issue into consideration and determine the causes and factors of students' motivation and amotivation (25).

One of the factors affecting learning among learners is academic motivation, which is mostly related to academic performance and success (26). The processes which make and direct strong behavior come from the forces and desires within the individual as well as the environment. Motivation is also an inner force (5) that empowers and guides behavior. Academic motivation is one of the learning requirements that gives behavior intensity and direction and also helps the learner maintain its continuity. In fact, it is what gives the learner energy and guides his activities (27). Motivation is therefore a general term which is applied

to describe a common ground between needs, cognitions, and emotions (28). Academic motivation depends on a set of factors and their complex interactions (the role of social and educational factors in weakening motivation) and the desire to do something well in a particular field (29). But the motivational injuries inflicted on students will cause a kind of pessimism, anxiety, depression and on the other hand will lead to failure in performance and reduce their academic dynamism (30, 31). It seems natural that young people go to university in order to find a job and secure a brighter future. Since official and unofficial statistics indicate a significant percentage of unemployment in our country, the possibility of not being able to get employed in a job related to the field of study can be the major concern for students (32, 33).

Students as human resources are regarded as the most important assets of human societies and one of the most important factors is the necessary motivation inside them. Causing motivation is a principle and basis in scientific development. However, unfortunately, surfeit and lack of motivation in some students have caused them not only not to pursue scientific development but also have difficulty in passing their courses (6). The behaviors of highly motivated people are energetic, purposeful, directional and stable. They also engage their selves in strenuous activities and strive hard to fully understand (8, 34), but knowing why some students are motivated and strive to achieve their learning goals while others are unmotivated is of undeniable importance (6).

Based on the author's preliminary studies, it seems that in recent years, a significant percentage of Medical Library and Information Science students in Iran express disinterest and lack of motivation on entering university and starting their studies. This lack of motivation and its consequences sometimes lead to the dropout of some students and consequently problems such as wasting tuition fees and time and impossibility of continuing studies, and so on. It is worth mentioning that the importance of motivational factor in education, based on the above mentioned, is undeniable and up to the author's best knowledge no study has been conducted with this purpose among students of Medical Library and Information Science in Iran. Therefore, in this study, Medical Library and Information Science students of Hamadan University of Medical Sciences were selected randomly. An attempt has been made to take an effective step to improve and enhance the educational quality of this field of study by studying the status of academic motivation and identifying the factors affecting academic motivation in these students. Therefore, the present

study is aimed to identify the factors affecting the academic motivation of Medical Library and Information Science students.

## **LITERATURE REVIEW**

Prior to this study, researchers in various studies have examined the role of academic motivation and reasons of amotivation under different conditions and in different fields of study, with the exception of Medical Library and Information Science. These studies are briefly reviewed as following.

Sadaf Naz et al. (2020) conducted a descriptive study in order to investigate the relationship between motivation (external and internal) and students' academic achievement in Pakistan. They concluded that students' academic achievement is significantly influenced by external and internal motivation. In other words, there is a significant gender difference in academic performance. Moreover, male students showed more external motivation than female students (35). Zaccone et al. (2019) conducted a descriptive study on investigating the relationship between individual-intrinsic motivation, external motivation, the effectiveness of learning as well as whether this relationship is correlates with gender or not. They found that intrinsic motivation has a positive effect on the effectiveness of learning while external motivation has a negative effect. The results also indicated that gender has a moderating role (36). In addition, in a descriptive study, with the aim of identifying the factors affecting academic motivation among students studying at Farhangian<sup>1</sup> University, Roomani et al. (2019) found that the teaching staff (how the teaching staff interact and the academic position of professors), university facilities (including food and spatial facilities), course content (content quality, future application, and content of specialized courses), friends, issues related to the students themselves, as well as issues related to the Farhangian University policies (policy related to job policy and the policy holding classes) were among the influential factors of amotivation in students of the university (37). Meens et al. (2018) in a descriptive study examined whether organizational identity and motivation among farsighted students predict academic achievement or not. Their results revealed that motivation was associated with academic achievement, while organizational identity was not effective (38). In a descriptive study Yardimci et al. (2017) conducted a study in order to determine the relationship between study process, motivational resources and motivation problems among Nursing students in different Turkish educational systems. Their study showed a significant difference between the scores of the study process scale and motivational resources and the problem scale in educational systems (39). The aim of Sharifi et al. (2020) cross-sectional study was to

determine the relationship between academic motivation and insights to career prospects in students of Medical Sciences universities. The results showed that based on the significant relationship between educational motivation and career prospects and the undesirable level of academic motivation, it is necessary that in order to reduce concerns towards career prospects in students and consequently improving their academic motivation serious steps must be taken (24). Bakhshi et al. (2018) have also done a descriptive cross-sectional study with the aim of investigating more effective learning motivation factors from the perspective of Dentistry students. The results showed that the motivation of Dentistry students was in average level and the internal motivations for learning were higher than the external motivations in male students (5). In a 2017 descriptive study Nasiri and Karshki performed a study in order to investigate the effect of motivational beliefs (future orientation and task value and self-efficacy) on students' amotivation, academic achievement and academic

1. a university in Iran for training teachers.

burnout. Their results revealed that with reinforcing motivation and motivational beliefs (future orientation and task value and self-efficacy) students' academic achievement can be increased and academic burnout can be reduced (40). In 2014, Izadi et al conducted a descriptive-analytical study aimed at determining the relationship between academic motivation and some related factors in students of Golestan University of Medical Sciences (Iran). They concluded that the total score of academic motivation of the students were relatively desirable. Despite the fact that the boys' academic motivation was lower than the girls' and that increasing the motivation in students studying medical sciences is the most important asset not only for medical community, but also a national asset, is an important issue that should be taken into consideration by educational policy makers and planners (41)

## **AIMS AND GOALS**

- 1) Determining the level of external motivation of Medical Library and Information Science students
- 2) Determining the level of intrinsic motivation of Medical Library and Information Science students
- 3) Determining the level of amotivation of Medical Library and Information Science students

4) Determining the level of academic motivation of Medical Library and Information Science students based on demographic characteristics (age, sex, marital status, educational level and place of residence)

## **METHODOLOGY**

The present study is a quantitative study which was done by analytical survey method. The research population was randomly selected from all students of Medical Library and Information Science at Hamadan University of Medical Sciences (Iran). No sampling was done and via using census method the entire population was taken in for study. The number of subjects was 70. After obtaining informed consent from the students, the data were collected using the Walland Standard Academic Motivation Scale (AMS-HS 28), which was designed based on the theory of self-determination. This questionnaire was localized and used in Iran by Jamshidi with calculation of Cronbach's alpha 0.74, Rouhi (2008) with calculation of Cronbach's alpha 0.85 and Roshan Milani (2012) with Cronbach's alpha of 0.88 (42). The research questionnaire contained 28 four-choice questions based on the Likert scale. This scale had three types of components including internal motivation components (12 items), external motivation components (12 items) and amotivation components (4 items). After collecting and extracting data from the research questionnaires, the data were analyzed regarding the purpose of the study using descriptive and inferential statistical methods in the form of descriptive tables and statistics as well as Mann-Whitney U statistical tests. In addition to analyze the data SPSS-20 was also used.

## **RESULTS**

For conducting the present study, 70 questionnaires were distributed among and completed by Medical Library and Information Science students of Hamadan University of Medical Sciences. The obtained results in the form of different tables according to the objectives and hypotheses of the research were analyzed using descriptive and inferential statistical methods.

Table (1): Comparison of mean scores of external motivation

Variables		Number	Average Scores	Minimum	Maximum
Gender	Female	57	36.03	12	84
	Male	13	33.19	35	82
		p-value = 0.650		Mann-Whitney U = 340.500	
Age	Equal to 22 years and younger	47	30.78	12	76
	23 years and older	23	45.15	38	84
		p-value = 0.005		Mann-Whitney U = 318.500	
Educational Grade	BSc	66	34.73	12	87
	MSc	4	48.13	58	71
		p-value = 0.201		Mann-Whitney U = 81.500	
Work Experience	Yes	18	38.42	46	79
	No	52	34.49	12	84
		p-value = 0.480		Mann-Whitney U = 415.5000	
GPA	Less than 15	8	18.56	35	75
	More than 15	30	19.75	12	82
		p-value = 0.788		Mann-Whitney U = 112.500	
Indigenous	Yes	22	38.20	12	79
	No	48	34.26	15	84
		p-value = 0.451		Mann-Whitney U = 468.500	
Residency Status	Dormitory	48	36.7	15	84
	Rental or non-rental house	21	38.74	12	82
		p-value = 0.737		Mann-Whitney U = 501.500	

According to Table (1), the mean scores of external motivation in both females and males, between the two groups of with work experience and no work experience, with a grade point average of less than 15 and more than 15, indigenous and non-indigenous and also between the two groups of living in dormitory and rental or non-rental house there was no significant difference. Also, the average score of external motivation in postgraduate students was 13.40 higher than undergraduate students, which was not statistically significant. However, the mean scores of external motivation in the age group of 23 years and older were significantly higher than the age group equal to 22 years and younger. The mean score of external motivation in students in the age group of 23 years and older was 45.15 and in students in age group equal to 22 years and younger was 30.78 which this difference was statistically significant (p-value = 0.005). There was no significant difference between the mean scores of external motivation between the two Bachelor's and Master's levels.

Table (2): Comparison of mean scores of intrinsic motivation

Variables		Number	Average Scores	Minimum	Maximum
Gender	Female	57	35.53	12	84
	Male	13	35.38	41	84
		p-value = 0.982		Mann-Whitney U = 369.000	
Age	Equal to 22 years and younger	47	31.24	12	84
	23 years and older	23	44.20	33	84
		p-value = 0.012		Mann-Whitney U = 340.500	
Educational Grade	BSc	66	36.11	12	84
	MSc	4	46.88	51	77
		p-value = 0.249		Mann-Whitney U = 86.500	
Work Experience	Yes	18	39.00	43	84
	No	52	34.29	12	84
		p-value = 0.397		Mann-Whitney U = 405.5000	
GPA	Less than 15	8	16.69	41	77
	More than 15	30	20.25	12	84
		p-value = 0.420		Mann-Whitney U = 97.500	
Indigenous	Yes	22	39.64	12	84
	No	48	33.60	12	84
		p-value = 0.249		Mann-Whitney U = 437.000	
Residency Status	Dormitory	48	33.18	12	84
	Rental or non-rental house	21	39.17	12	84
		p-value = 0.254		Mann-Whitney U = 416.500	

In reference to Table (2), the average scores of intrinsic motivation in both sexes, between Bachelor's and Master's degrees, between two groups with work experience and without work experience, with a grade point average of less than 15 and more than 15, indigenous and non-indigenous and also between the two groups of living in dormitory and rental or nonrental house there was no significant difference. But the mean scores of intrinsic motivation in the age group of 23 years and older were significantly higher than the age group of equal to 22 years or younger. The mean score of intrinsic motivation in students in the age group of 23 years and older was 44.2 and in age group equal to 22 years and younger was 31.24 which was statistically significant (p-value = 0.012).

Table: Comparison of mean scores of amotivation

Variables	Number	Average Scores	Minimum	Maximum
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<b>Gender</b>	Female	57	32.94	4	23
	Male	13	46.73	4	20
p-value = 0.027      Mann-Whitney U = 224.500					
<b>Age</b>	Equal to 22 years and younger	47	33.64	4	23
	23 years and older	23	39.30	4	23
p-value = 0.272      Mann-Whitney U = 453.000					
<b>Educational Grade</b>	BSc	66	36.16	4	23
	MSc	4	24.62	541	11
p-value = 0.283      Mann-Whitney U = 88.500					
<b>Work Experience</b>	Yes	18	29.61	4	20
	No	52	37.54	9	23
p-value = 0.153      Mann-Whitney U = 362.000					
<b>GPA</b>	Less than 15	8	17.38	4	18
	More than 15	30	20.07	43	23
p-value = 0.541      Mann-Whitney U = 103.000					
<b>Indigenous</b>	Yes	22	23.95	4	17
	No	48	40.79	4	23
p-value = 0.001      Mann-Whitney U = 274.500					
<b>Residency Status</b>	Dormitory	48	39.95	4	23
	Rental or non-rental house	21	23.69	4	15
p-value = 0.002      Mann-Whitney U = 266.500					

Table (3) shows the results of Mann-Whitney U statistical test comparing the mean score of amotivation between men and women (p-value = 0.027), indigenous and nonindigenous students (p-value = 0.001) and students' place of residency (P-value = 0.002) was different and significant. Moreover, the mean score of motivation in undergraduate students equal to 36.16 was higher than the average score of motivation in graduate students equal to 24.62, but according to the results of the statistical test, this difference was not significant.

Table (4): Comparison of the mean total score of academic motivation

<b>Variables</b>		<b>Number</b>	<b>Average Scores</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Gender</b>	Female	57	35.16	28	183
	Male	13	37.00	95	171
p-value = 0.768      Mann-Whitney U = 351.000					
<b>Age</b>	Equal to 22 years and younger	47	30.54	28	161
	23 years and older	23	45.63	92	183
p-value = 0.004      Mann-Whitney U = 307.500					
<b>Educational Grade</b>	BSc	66	34.89	28	183
	MSc	4	45.50	120	153
p-value = 0.331      Mann-Whitney U = 92.000					
<b>Work Experience</b>	Yes	18	38.19	104	172
	No	52	34.54	28	183

		p-value = 0.514		Mann-Whitney U = 419.000	
<b>GPA</b>	Less than 15	8	16.12	95	155
	More than 15	30	20.40	28	180
		p-value = 0.333		Mann-Whitney U = 93.000	
<b>Indigenous</b>	Yes	22	37.36	28	172
	No	48	34.65	31	183
		p-value = 0.737		Mann-Whitney U = 501.500	
<b>Residency Status</b>	Dormitory	48	33.92	31	183
	Rental or non-rental house	21	37.48	28	172
		p-value = 0.498		Mann-Whitney U = 452.000	

Based on Table (4), the mean total score of academic motivation of students was not statistically significant in terms of gender, educational level, work experience, grade point average, indigenous and nonindigenous and place of residency. However, the mean total score of academic motivation in the age group of 23 years and older was 45.63 and in the age group equal to 22 years and younger was 30.54, which was a significant difference according to the statistical test (p- value = 0.004).

Table (5): Mean of motivational components taken into consideration

<b>Components Taken into Consideration</b>	<b>Number of Questions</b>	<b>Number of Respondents</b>	<b>Minimum Score</b>	<b>Maximum Score</b>	<b>Average (SD)</b>
<b>External Motivation</b>	12	70	12	84	(16.70) 60.37
<b>Intrinsic Motivation</b>	12	70	12	84	(14.85) 59.02
<b>Amotivation</b>	4	70	4	28	(5.53) 10.78
<b>Total Score of Academic Motivation</b>	28	70	28	196	(29.88) 130.18

According to Table (5), the total score of academic motivation and its standard deviation among the students under study was  $130.18 \pm 29.88$  (out of the maximum score of 196). In the amotivation subscale, the total score and its standard deviation among students was  $10.78 \pm 5.53$ .

## DISCUSSION AND CONCLUSION

Due to the importance of motivation in students' academic achievement, the present study was designed to investigate the status of academic motivation and the factors affecting it among Medical Library and Information Science students of Hamadan University of Medical Sciences, Iran. In Iran and abroad, studies have studied academic motivation and its related

factors in students, and their amotivational factors in various universities and disciplines such as students of Farhangian and medical universities have been studied and the majority of results indicate the fact that almost half of the students have a relatively good motivation (43, 44).

The findings of the present study indicate that there is a statistically significant difference between the mean scores of academic motivation, so that the mean score of amotivation in men (13.79) was higher than women. The mean scores of external motivation (14.37), internal motivation (12.96), amotivation (5.66) and total academic motivation score (15.09) in the age group of 23 years were higher than the age group equal to 22 years and younger and also the average of amotivation score of nonindigenous students (1.84) and dormitory students (16.26) was higher than indigenous students living in rental or non-rental house.

In addition, the present study showed that although the mean scores of external and internal motivation in female students were slightly higher than male students, but based on the statistical test, this difference is not significant (Tables 1 and 2) which this result is inconsistent with the study of Sadaf Naz et al. (35). Perhaps the reason for this can be found in the difference between the fields of study of the students studied in these two studies and the impact of social and cultural factors. The other results of this study showed that the total score of academic motivation and amotivation of the students under study had slight differences between the two groups of men and women, between the two groups of indigenous and nonindigenous and the two groups living in dormitories and living in rental or non-rental house. But these differences were not statistically significant. Moreover, despite having a small difference, the average score of motivation and total score of academic motivation in the age group of 23 years and older and the age group equal to 22 years younger and also the average scores in external motivation, internal motivation, amotivation and total academic motivation score between undergraduate and graduate, between the two groups of having work experience and without work experience and between the two groups of with a grade point average less than 15 and a grade point average more than 15 did not have a statistically significant difference (Tables 3 and 4).

In this study, the mean score of external motivation in graduate students (48.13) was higher than the score of external motivation in undergraduate students (34.73), but this difference was not significant based on the results of statistical tests. The increase in external motivation of postgraduate students compared to undergraduate students is probably due to the fact that

the potential of external motivation factors has been such that they have decided to continue their studies at the postgraduate level. It seems that the lack of significant difference in the mean of external motivation is due to the small number of graduate students participating in the study. The mean scores of external and internal motivation in students in the age group of 23 years and older, (14.3) and (12.96) respectively were higher than students in the age group equal to 22 years or younger, which was statistically significant ( $p$ -value = 0.005,  $p$ -value = 0.012). The reason for this statistically significant difference seems to be the financial ability and peace of mind in students in the age group of 23 and older, since most graduate students are employed and married, so they have less problems and stress and more peace of mind.

In the present study, students' motivation score in the external component was higher than the internal component, which indicates a higher motivational power of external factors than internal factors. In previous studies, it was found that researchers have less studied the components of intrinsic motivation and extrinsic motivation in students and most studies have studied motivation in general in relation to other variables (38). However, the present finding is consistent with Naseh et al. study (43), which was also conducted on medical students using the Walrand Academic Motivation Scale. In relation to the present finding, it can be argued that if we consider the items in each component, it turns out that the items related to employment and career prospects are located in the components of external motivation. It is clear that youth enter the university with the aim of getting a job and securing a better future.

In addition, in this study, academic motivation was studied in relation to gender, as the findings showed the total score of academic motivation of males was (1.84) higher than females, but this difference was not statistically significant and it is not consistent with the results of the study of Izadi et al. (41). On the other hand, in a study conducted specifically to examine gender differences in students' motivation and academic achievement, it was found that girls' internal motivation was higher than the boys', while boys scored higher in the external motivation component (35). By explaining this relationship, it can be said that since in Iran women of previous generations (mothers of current students) were often housewives and did not have financial independence, perhaps the reason for the higher motivation in girls is that unlike their mothers, through continuing their education, they want to have more presence in the society, be employed, and have more financial independence, and these factors have become their motivating force for education. There was a significant relationship between the mean score of academic motivation with the residency status ( $p$ -value = 0.002) and indigenous and non-indigenous students ( $p$ -value = 0.001) and it was found that people

living with their families compared to those who live in dormitories or rental houses and are not with their families have a higher mean score of academic motivation. The reason for this discrepancy seems to be that students living at home are free from many of the problems of the dormitory environment, such as tensions with roommates, lack of peace, tranquility, and concentration in a crowded and new environment, which these factors can lower academic motivation of the students.

In general, the mean score of academic motivation of Medical Library and Information Science students (130.18) (out of a total score of 196) was considered relatively good. The results of this study, along with other studies (24, 38, 39) show the effect of academic motivation as one of the most essential psychological concepts in education and academic achievement and is considered one of the requirements for learning. Lack of motivation in education in addition to academic failure has a long-term and widespread negative impact on learner attitudes and behaviors, reduces class dynamism and wastes financial resources which lead to frustration and discouragement in students. Moreover, lack of motivation provides the ground for mental problems and social deviations. In this regard, necessary measures to improve students' educational background can be effective in reducing their lack of motivation and social deviations. Academic counseling, expert and motivated professors, creating a motivated environment full of social and human interactions and creating training courses (for sharing motivation between teacher and student) are among the important factors that can play an important role in reducing amotivation.

### **SUGGESTION FOR FURTHER STUDIES**

- It is suggested that, by carrying out planned educational measures and removing motivational barriers in the educational system, the relevant authorities and planners provide the ground for promoting academic motivation and sustainable learning activities.
- It is suggested that more studies should be done in this field and other factors involved in academic motivation should also be examined.
- Research should be conducted with the greater population to determine the factors affecting students' academic motivation.
- The rate of employment in students of Medical Library and Information Science compared to other fields of study can be compared and studied.

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